

### **REMARKS**

The Office Action dated February 21, 2007 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1-37 have been amended as appropriate to more particularly point out and distinctly claim the subject matter of the invention. Claims 38-41 have been added. No new matter has been added. Claims 1-41 are respectfully submitted for consideration.

As a preliminary matter, the Office Action noted that no copies of references AN and AO, from the Information Disclosure Statement of November 16, 2005, were provided. However, applicants note that all of the information available to the applicants at the time, specifically copies of the cover pages along with the Library of Congress data sheet, were provided. Applicants respectfully request that these references be properly made of record in this application. A new PTO-1449 form is provided.

Claims 1 and 13 were objected to because of a number of informalities. These claims have been amended as appropriate to correct these informalities.

Claims 1-32 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. As noted above, these claims have been amended to more particularly point out and distinctly claim the subject matter of the invention. Applicants respectfully submit, however, that the claims are in compliance with United States patent practice. The Office Action seems to make an assumption that public and private keys are different. However, applicants respectfully submit that the

present specification does not indicate nor require that public and private keys are different. Additionally, a person of ordinary skill in the art would understand that if a comparison were being made, the values being compared must be created to be the same if an equation is required for a continuing process. Applicants respectfully request, therefore, that this rejection be withdrawn.

Claims 32 and 36 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. The Official Action highlighted numerous deficiencies in these claims; applicants appreciate the Examiner's highlighting of these deficiencies, and respectfully submit that the claims, as submitted herein, are in compliance with United States patent practice.

Claims 1-2, 5-18, 21-34 and 36-37 were rejected under 35 U.S.C. §112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. Specifically, the Office Action alleged that claims 1, 17 and 33 omit the step of signing or encrypting by the start node the start message using a private key of the start node before sending the start message. Claims 1, 17 and 33 have been amended to overcome this rejection. Therefore, Applicant requests that this rejection be withdrawn.

The following prior art rejections were made against the claims in this application:

- Claims 1-3, 5-6, 17-19, 21-22, 33-35 and 37 were rejected under 35 U.S.C. §102(b) as being anticipated by a document titled "RFC 2328 – OSPF Version 2" by (Moy).

- Claims 1-6, 17-22, 33-35 and 37 were rejected under 35 U.S.C. §102(b) as being anticipated by a document titled “Digital Signature Protection of the OSPF Routing Protocol” (Murphy) “as evidenced by” Moy.
- Claims 1-8, 10-12, 17-24, 26-28 and 33-37 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Publication No. 2002/0016926 (Nguyen) “as evidenced by” Moy.
- Claims 13-15 and 29-31 were rejected under 35 U.S.C. §103(a) as being unpatentable over Nguyen “as evidenced by Moy” as applied to claims 1 and 17 and further in view of U.S. Patent No. 7,103,185 (Srivastava).
- Claims 9 and 25 were rejected under 35 U.S.C. §103(a) as being unpatentable over Nguyen “as evidenced by Moy” as applied to claims 7 and 23 and further in view of U.S. Patent No. 6,085,320 (Kaliski).

As will be discussed below, Applicants respectfully submit that the cited prior art fails to disclose or suggest the elements of the claimed invention.

Independent claim 1, upon which claims 2-16 are dependent, is directed to a method performed in a communication system including a plurality of nodes communicating in a shared network segment, and at least one multicast channel in the shared network segment. The method comprises sending multicast messages from nodes on at least one multicast channel to other nodes, and providing a further specific multicast channel for sending start messages by the nodes to the other node. A start message is sent on the specific multicast channel by using a start node. The start node starts an

operation or an application. The start message is received at a receiving node, and an authenticity of the start message is validated upon receipt of the start message at the receiving node.

Independent claim 17, upon which claims 18-32 are dependent, is directed to a communication system comprising a plurality of nodes. A shared network segment is provided for communication between nodes of the plurality of nodes, and at least one multicast channel is provided in the shared network segment on which the nodes can send multicast messages to other nodes. A specific multicast channel is provided on which the nodes can send start messages to the other nodes. A start node is provided for starting an operation or an application configured to send a start message on the specific multicast channel. A receiving node receives the start message, and is configured to validate an authenticity of the start message.

Claim 33, upon which claims 34-37 are dependent, is directed to a node for use in a system including at least one multicast channel on which the node can send multicast messages to the other nodes. The node is configured to send a start message on a specific multicast channel of a system when the node starts an operation or an application.

Applicants respectfully submit that the cited prior art of Moy, Murphy, Nguyen, Srivastava, and/or Kaliski fail to disclose or suggest the subject matter of the claimed invention.

Moy, specifies an internet standards track protocol. Sections 4.3 and 4.4 of Moy are directed to routing protocol packets, and to various implementation requirements for

implementing a protocol. Moy discloses, generally, that OSPF protocol packets share a common protocol header, and discusses the use of Hello protocol and Hello packets to discover and maintain neighbor relationships. Moy discloses the use of broadcasts of Hello packets, and various timers. Moy does disclose the use of IP multicast, variable-length subnet support, etc. However, applicants respectfully submit that Moy fails to disclose or suggest methods and apparatuses as recited in any of presently pending claims 1-37 and in newly added claim 38 and dependent claims 39-41 thereon. For example, there is no disclosure nor suggestion in Moy of the steps of sending multicast messages on at least one multicast channel to other nodes, and providing a further specific multicast channel for sending start messages by the nodes to the other node. Similarly, there is no disclosure or suggestion in Moy of sending a start message on the specific multicast channel by using a start node, wherein the start node starts an operation or an application, or of validating an authenticity of the start message upon receipt of the start message at the receiving node.

Page 6 of the Office Action seems to attempt to pick and choose from various aspects of Moy, out of context. Moy simply fails to disclose or suggest the specific combination of elements recited in the presently pending claims.

Murphy discloses the use of an asymmetric cryptographic algorithm to allow router recipients to check sources and integrity of information. Basic OSFP is discussed, and digital signatures are disclosed as being added to OSPF data, as are neighbor-to-

neighbor authentication algorithms. However, as with Moy, Murphy simply fails to disclose or suggest the method or the systems as recited in the presently pending claims.

Nguyen discloses a method and apparatus for integrating tunneling protocols with standard routing protocols. According to Nguyen, tunnels are utilized to provide secure segment communications such as, for example, VPNs through the use of dynamically assigned IP addresses. Referring to Figure 1 of Nguyen, network 100 includes a series of backbones or backbone networks A-E, and “stub” networks R, Y, and Z. Each of the nodes in the networks can include conventional hardware elements as illustrated in Figure 2 thereof. Routing protocols, internet key exchange security protocols, address resolution protocols, VPNs, and tunneling are discussed. In making these apparent anticipation rejections using Nguyen and Murphy, the Office Action seems to be relying on Nguyen and Murphy as each disclosing all the elements of the claimed invention, but also relies upon Moy as curing certain deficiencies in Nguyen and Murphy. In view of the fact that these are rejections under 35 U.S.C. §102(b), applicants respectfully submit that the Office Action’s reliance on Moy as disclosing features as being known or inherent is improper. Any rejection which requires a combination of two references should be an obviousness rejection under 35 U.S.C. §103, and not an anticipation rejection under 35 U.S.C. §102. In order for a rejection to be proper under 35 U.S.C. §102, each and every element of the claimed invention must be disclosed in a single reference. The citation of Moy in these rejections is, by itself, an admission that anticipation rejections are improper.

In any event, however, applicants respectfully submit that neither Moy, Murphy, nor Nguyen, when viewed either singly or when combined with any other prior art, fails to disclose or suggest the various elements of any of pending claims 1-4137.

Srivastava discloses a method and apparatus for distributing and updating private keys of multicast group managers, using directory replication. Srivastava seems to be directed to a method for establishing secure multicast communication among multiple multicast proxy service nodes, which are organized in a logical tree.

Kaliski is directed to a client/server protocol for proving authenticity. However, while all of the cited prior art seems to be directed to secure communications and authenticity, the prior art when viewed either singly or in combination fails to disclose or suggest methods or systems as recited in the presently pending claims. None of the cited references can be interpreted as disclosing or suggesting sending multicast messages from nodes on at least one multicast channel to other nodes, and providing a further specific multicast channel for sending start messages by the nodes to the other node. Similarly, there is no disclosure nor suggestion of sending a start message on this specific multicast channel by using a start node, where the start node starts an operation or an application. Similarly, the cited prior art fails to disclose or suggest receiving the start message at a receiving node, and validating an authenticity of the start message upon receipt of the start message at the receiving node.

Furthermore, the cited prior art fails to disclose or suggest a communication system as recited in claim 17, which includes the plurality of nodes, the shared network

segment, the at least one multicast channel, the specific multicast channel, the start node, or the receiving node, in the various cited configurations.

In view of the above, applicants respectfully yet strongly submit that the claimed invention includes certain clear and important distinctions over the cited prior art. Applicants submit that these distinctions are more than sufficient to render the claimed invention unobvious to a person of ordinary skill in the art. Applicants therefore respectfully request that all of claims 1-41 be found allowable and this application passed to issue.

Applicants note that claims 16 and 32 were indicated as containing allowable subject matter, and would be otherwise allowable. Applicants respectfully submit, that in view of the amendments and remarks noted above, these claims should be found to be in condition for allowance.



In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



Arlene P. Neal  
Registration No. 43,828

**Customer No. 32294**  
SQUIRE, SANDERS & DEMPSEY LLP  
14<sup>TH</sup> Floor  
8000 Towers Crescent Drive  
Tysons Corner, Virginia 22182-2700  
Telephone: 703-720-7800  
Fax: 703-720-7802

DHG:APN:ksh

Enclosures: Additional Claim Fee Transmittal  
Petition for Extension of Time  
Check No. 16527